

**WHAT IS CLAIMED IS:**

1. A tape carrier package comprising:

a base substrate;

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a driver IC formed on said base substrate;

an input pattern formed on said base substrate, for applying driving signals input from an external device to said driver IC;

a first output pattern formed on said base substrate, for outputting a first driving signal processed in said driver IC; and

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a second output pattern formed on said base substrate, for outputting a second driving signal bypassing said driver IC among said driving signals.

2. The tape carrier package of claim 1, wherein said second output pattern is not connected to the gate driver IC.

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3. The tape carrier package of claim 1, wherein said base substrate is a flexible printed circuit film, and said gate driver IC, said input pattern, said first output pattern, and said second output pattern are all formed on the same surface of the flexible printed circuit film.

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4. A liquid crystal display panel assembly comprising:

a single integrated PCB for processing a gate driving signal and a data driving

signal;

an LCD panel comprising a color filter substrate, and a TFT substrate facing the color filter substrate including a plurality of gate line groups each having a plurality of gate lines extending to one edge of the TFT substrate, a plurality of data line groups each having a plurality of data lines extending to another adjacent edge, and a gate driving signal line placed between the plurality of gate line groups and the plurality of data line groups, that transfers the gate driving signals;

a first tape carrier package for electrically connecting said single integrated PCB to said TFT substrate, applying the data driving signals to the plurality of data lines, and applying the gate driving signals to the plurality of gate lines; and

a second tape carrier package for electrically connecting the gate driving signal line to the plurality of gate lines, and applying the gate driving signals to the plurality of gate lines.

5. The liquid crystal display panel assembly of claim 4, wherein the gate driving signal line comprises a plurality of signal transferring lines formed on non-effective display region.

6. The liquid crystal display panel assembly of claim 4, wherein said gate driving signal transferring means is made of thin metal film or indium tin oxide.

7. The liquid crystal display panel assembly of claim 4, wherein said first tape carrier

package comprises:

a gate driving signal pattern for applying the gate driving signals from said single integrated PCB to the gate driving signal line; and

a data driving signal pattern for applying the data driving signals from said single

5 integrated PCB to the plurality of data lines.

8. The liquid crystal display panel assembly of claim 4, wherein said first tape carrier package comprises:

a base substrate;

10 a gate driving signal transmission pattern formed on one sided face of said base substrate;

a data driver IC formed at the one sided face of the base substrate, for processing the plurality of data driving signals input from the integrated PCB; and

15 a data driving signal transmission pattern comprising a data driving signal input pattern and a data driving signal output pattern which are formed on the one sided face of the base substrate, one end of said data driving signal input pattern being connected to an input terminal of the data driving IC and one end of said data driving signal output pattern being connected to an output terminal of the data driving IC.

20 9. The liquid crystal display panel assembly of claim 8, wherein said base substrate is a flexible printed circuit film.

10. The liquid crystal display panel assembly of claim 4, wherein said second tape

carrier package comprises:

a flexible base substrate;

a gate driver IC formed at one sided face of the flexible base substrate, for processing the gate driving signal input through the first tape carrier package from the integrated PCB; and

5 a gate driving signal transmission pattern comprising a gate driving signal input pattern, a first gate driving signal output pattern, and a second gate driving signal output pattern all of which are formed on the one sided face of the base substrate, said gate driving signal input pattern being connected to an input terminal of said gate driver IC, said first gate driving signal output pattern by-passing a gate driving signal input through said first tape carrier package without a  
10 connection to the input and output terminals of the gate driver ICs, and said second gate driving signal output pattern being connected to an output terminal of said gate driver IC.

11. A liquid crystal display, comprising:

an LCD assembly, comprising:

15 a single integrated PCB for processing a gate driving signal and

a data driving signal;

an LCD panel comprising a color filter substrate and a TFT  
substrate facing the color filter substrate that includes a plurality of gate line groups  
each having a plurality of gate lines extending to one edge of the TFT substrate, a  
20 plurality of data line groups each having a plurality of data lines extending to another  
edge normal to the gate lines, a first gate driving signal transferring means placed  
between said plurality of gate lines and said plurality data lines, for transferring said  
gate driving signals from the one edge to the another edge of the TFT substrate, and  
a second gate driving signal transferring means formed on said another edge of the

TFT substrate;

a first tape carrier package for electrically connecting said single integrated PCB to the TFT substrate, applying said data driving signals to a selected group of the plurality of data line groups, and applying the gate driving signals to the first gate driving signal transferring means;

a second tape carrier package for applying the data driving signal to a non-selected lines group of the plurality of data line groups; and

a third tape carrier package for electrically connecting the first gate driving signal transferring means to one of the gate line groups, and applying the gate driving signal to the gate line groups; and

a light supplying unit that supplies light to said LCD assembly.

12. The liquid crystal display of claim 11, wherein said first tape carrier comprises:

a base substrate;  
a gate driving signal pattern formed on said base substrate, for receiving the gate driving signal from said single integrated PCB; and

a data driving signal pattern comprising a data driver IC for processing the data driving signal, a data driving signal input pattern formed in input terminal of the data driver IC, for receiving the data driving signal from said single integrated PCB, and a data driving signal output pattern formed in output terminal of the data driver IC.

13. The liquid crystal display of claim 11, wherein said third tape carrier package comprises:

a base substrate;

5 a gate driver IC formed on said base substrate;

a gate driving signal input pattern formed on said base substrate and connected to input terminals of said gate driver IC and output terminal of the first gate driving signal transferring means such that the gate driving signals is input from said single integrated PCB to said gate driver IC;

10 a first output pattern connected to output terminal of said gate driver IC and input terminal of the gate line groups such that the gate driving signal processed in said gate driver IC is input into the gate line groups; and

a second output pattern connected to output terminal of said gate driver IC and input terminal of the second gate driving signal transferring means such that the gate driving signal is input to said third tape carrier package.

14. The liquid crystal display of claim 13, wherein said first output pattern is connected to the first gate driving signal transferring means and said second output pattern is connected to the second driving signal transferring means.

15. The liquid crystal display of claim 13, wherein said first output pattern is

connected to the second gate driving signal transferring means and said second output pattern is connected to the said first driving signal transferring means.

16. The liquid crystal display of claim 12, wherein said base substrate is a flexible printed circuit film.

17. A liquid crystal display, comprising:

an LCD assembly, comprising:

an LCD panel comprising: a color filter substrate; and a TFT

substrate facing the color filter substrate, that includes a plurality of gate line groups each having a plurality of gate lines extending to one edge of the TFT substrate, and a plurality of data line groups each having a plurality of data lines extending to another edge normal to said the plurality of gate lines;

a plurality of tape carrier packages comprising a gate tape carrier package connected to the plurality of gate line groups and a data tape carrier package connected to the plurality of data line groups;

a single integrated PCB connected to the data tape carrier package, for processing a gate driving signal and a data driving signal;

a gate driving signal transferring means for transferring the gate driving signal of said single integrated PCB into the plurality of gate line groups via the data tape carrier package, the TFT substrate, and the gate tape carrier package

in the named order;

a data driving signal transferring means for transferring the data driving signal of said single integrated PCB into said the plurality of data line groups via the data tape carrier package; and

5 a light supplying unit that supplies light to said LCD assembly.

18. The liquid crystal display of claim 17, wherein said gate driving signal transferring means is a conductive signal transmission line that connects said single integrated PCB to the gate tape carrier package.

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19. The liquid crystal display of claim 18, wherein said gate driving signal transferring means is a conductive signal transmission line and diameter of the conductive signal transmission line increases in proportion to the length thereof.

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20. The liquid crystal display of claim 18, wherein said gate driving signal transferring means is a conductive signal transmission line connected to a resistor that controls transmission speed of the gate driving signal.

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21. The liquid crystal display of claim 20, wherein the resistor is a variable resistor and is formed on said single integrated PCB.



22. The liquid crystal display of claim 18, wherein said gate driving signal transferring means is a conductive signal transmission line and the gate driving signal is applied differently depending on the length of said conductive signal transmission line.

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23. The liquid crystal display of claim 22, wherein said gate driving signal transferring means has a signal level that is proportional to total length of said conductive signal transmission line.

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24. A method for assembling said liquid crystal display of claim 11, comprising the steps of:

connecting one end of said third tape carrier package to said TFT substrate and then bending the other end of said third tape carrier package toward the rear surface of said TFT substrate; and

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fixing said the other end of said third tape carrier package to the rear surface of said TFT substrate.

25. The method of claim 24, wherein said third tape carrier package is fixed by a fixing means.

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26. The method of claim 25, wherein said fixing means is one selected from a

group consisting of a double sided adhesive tape, an adhesive, and a clip.